



Chico  
**Golden  
Empire  
Amateur  
Radio  
Society, Inc.**

"Dedicated to Public Service"

# THE RADIATOR



W6RHC  
IRLP #8170



www.gearsw6rhc.org      P.O.Box 202 Chico, CA 95927

May 2023 Newsletter

GEARS Founded August 13, 1939

## From the President

GEARS and our associated Butte County ARES amateur radio volunteers participated in the annual and popular Wildflower Century Bike Run on Sunday, April 30, organized by the Chico Velo Cycling Club, which provided meals at their base at the Silver Dollar Fairgrounds.

Ham radio volunteers patrolled or were stationed along seven different routes (with different color arrows) to support riders of various age and skill levels, from the family-friendly 12-mile Childflower route with a 67-foot elevation gain and 1 rest stop, up to the most challenging 127-mile Megaflower route with lots of climbing (7,637-foot elevation gain) and 6 rest stops.

Each route showcased the stunning landscapes and colorful wildflowers of the region, providing participants with a truly memorable experience.  
<https://www.wildflowercentury.org/>

Plans for this year's ARRL Field Day are in motion. GEARS has reserved the Masonic Center picnic area, which has shade and room to deploy different antennas for each station. Field Day 2023 will be held June 24-25, beginning at 1800 UTC Saturday and ending at 2059 UTC Sunday. Check out the ARRL Field Day page at <https://field-day.arrl.org/> for more details and new rules.

The next ham radio breakfast will be at 9 am on the second Saturday, May 13th at Farmer's Skillet on Cohasset in Chico.

The next general meeting, the third Monday on May 15th is at the Chico Public Library, 1108 Sherman Ave. 6 pm social gathering, 7 pm meeting.

Check in to the GEARS net at 7:30 pm Tuesdays on 146.85- pl 110.9.

'73

J. Kent Hastings WA6ZFY  
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## May 2023 Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 7pm GARS Net 8pm ARES Net <b>7pm GEARS Board Meeting</b>	2 7pm PARS Net 7:30pm GEARS Net	3	4 7:30pm Simplex Net	5	6
7 8pm OARS Net	8 7pm GARS Net 8pm ARES Net	9 7pm PARS Net 7:30pm GEARS Net	10	11 6:30 pm PARS meetings 7:30pm Simplex Net	12 7pm OARS meeting 7pm GARS meeting	13 <b>9am Chico Breakfast</b>
14 8pm OARS Net	15 7pm GARS Net 8pm ARES Net <b>6pm GEARS Meeting</b>	16 7pm PARS Net 7:30pm GEARS Net	17	18 7:30pm Simplex Net	19	20
21 8pm OARS Net	22 7pm GARS Net 8pm ARES Net	23 7pm PARS Net 7:30pm GEARS Net	24	25 7:30 Simplex Net	26	27 9am OARS Breakfast
28	29 7pm GARS Net 8pm ARES Net	30 7:30pm GEARS Net	31			

**VEC Testing**, FCC License Exam available by appointment. For information or registration call Tom Rider, W6JS 530-514-9211

**Chico Breakfast** 2nd Saturday 9am Farmers Skillet Cohasset Rd, Chico

**GEARS Board Meeting** 1st Monday 7pm by Google video meetups.

**PARS Meeting** 2nd Thursday 6:30pm, doors open 6pm Old Magalia Community Resource Center

**OARS Meeting** Second Friday of the month, St. Pauls Episcopal Church Hall, Oroville.

**GARS Meeting** Second Friday of the month, Lutheran Church Hall, Artois.

**GEARS Meeting**, Doors open 6pm, meeting 7pm at Chico Public Library, 1108 Sherman Ave, Chico

**OARS Breakfast** 4th Saturday of the month, at Cornucopia of Oroville.

### NETS:

OARS Club Net Sunday 8pm 146.655 Mhz - PL 136.5

GARS Club Net Monday, 7:00 pm 147.105 MHz + PL 110.09, secondary: 146.850 MHz-PL 110.9

Yuba Sutter Club Net Monday 7pm 146.085 MHz + PL 127.3

GEARS Club Net Tuesdays 7:30 PM 146.850 MHz - PL 110.9

PARS Club Net Tuesday 7pm 145.290 - PL 110.9

Simplex Net Thursday 7:30 p.m. 146.52 no tone

Yuba Sutter ARES Net Thursdays 7pm 146.085 MHz + PL 127.3

Sacramento Valley Traffic Net Nightly 9:00 PM 146.850 MHz - PL 110.9

# WHAT'S WRONG WITH HAM RADIO

By Razvan Fatu (M0HZH)

This is an amazing hobby and has many sides to it, but as anything it's far from perfect. A Twitter challenge by Ria N2RJ (@RiaJairam) made me think about what can be improved about Amateur Radio.

## WHAT IS AMATEUR RADIO, REALLY ?

First of all, Amateur Radio is constantly changing, people are in it for different reasons and each think it is a sum of different things.

The essence of AR used to be experimentation with radio waves; this is the era that gave its fame as a technically spearheading hobby, around the middle of the 20th century. You would build your own equipment from spare parts retrieved from TVs, or if you were lucky you would have access to some factory-built kits that you still needed to spend days to get going. This "romantic" era was very significant and equally powerful for those that took part; it established a high level of expectations & rewards from the hobby which later generations struggled to reach. Many mentalities are still stuck in that past (and those technical solutions).

The first shift came when affordable, mass-produced equipment became available (1970s ?). It opened up the hobby to a much larger audience, maybe less technically inclined; this boosted local repeaters, nets and the communication & social side of the hobby. People weren't in it for experimentation & learning anymore, they're in it for talking to each other. You're part of a world-wide exclusive club, fire up your handheld in any city you travel to and you'll be in touch with your people in no-time.

The second shift is going on right now and is about internet (we are in fact in the middle of the 5th industrial revolution, but who's counting anymore). This replaced AR as a means of communication; there is nothing cool about carrying a handheld when everyone has smartphones. This put AR in a crisis as we're searching for ways to stay relevant. Some are trying to make it useful as an emergency service, which has good PR value but has limited (and quickly diminishing) applicability. Some are going back to the highly technical branch of the hobby, but we are so behind the current communications technology that it will take decades to catch up. Some are trying to diversify it by coming up with different activities that also include AR, like SOTA, POTA etc. It is still not very clear what will Amateur Radio be in the following decades.

## IS THERE REALLY ANYTHING WRONG WITH AMATEUR RADIO ?

There is always something wrong; and it has to be, otherwise we wouldn't move forward.

1. Cost of entry & age. The money/time/energy triangle is relevant here, young people need the hobby to be affordable in terms of money, the middle-aged group needs quick rewards and seniors appreciate less challenging activities. As the equipment market is driven by profit, the first age category is being mostly overlooked, resulting in a seriously aged Amateur Radio population. Luckily some key products are now addressing this, but we definitely could use more of the likes of uBITX, Baofeng and RTL-SDR to fix the age imbalance. What to do ? Give much more visibility to kits and affordable products instead of praising every "bench-queen" US\$ 5,000 transceiver from the established brands. Promote radio enjoyment at every level.

2. Attractiveness (or "the cool factor"). This results from the age imbalance, as the older age categories are more likely to promote outdated "selling points". We do have some fascinating activities and technologies (space communications, SDR, digital modes, SOTA etc) and we could definitely use more, but we need the right people to make them look cool. What to do ? Have young spokespersons, involve them in decision making, let them have their say about what they like/need/want.

3. Gatekeeping. For a group of people interested in communications technology, Radio Amateurs are pretty bad communicators; in fact, the pursuit of a hobby is in many cases just an effort to relate to people. We feel we're part of a special club and we challenge others that want to join in an effort to feel better about ourselves and also artificially give more value to our own membership to that club. This comes from a place

of frustration which quickly becomes elitism. What to do ? This is hard to fight against, as it requires for the entire hobby to be more enjoyable so it attracts less frustration. I guess campaigning that “gate keeping is not cool” and massively cutting jargon should be high on the list of things to improve.

4. Diversity. This is something that is so obvious and yet so ignored. For such a world-wide hobby, AR has one of the least diverse communities and part of it comes from that gate keeping. Looking around, I can easily see how women or people of a different ethnicity might feel uncomfortable among the average AR community. What to do ? Apart from a general direction of promoting diversity, maybe we should all point out things that stand out. Using women as eye candy in your Youtube videos is sad and discussing “how hot the ladies in the Icom IC-705 video are” is a sign of an emotionally undeveloped personality; don’t be that person, you’re embarrassing everyone.

5. General public perception. The fact that Amateur Radio has so many sides to it is also a disadvantage. We do have a PR problem and every time someone meets a Radio Amateur they see a very narrow side of it, that mostly confirms their prejudice set by “an uncle that had a CB too” or a movie with a sad, nerdy, lonely guy playing with his radio. What to do ? Stop showing people keying CW at 40wpm as if that defines our hobby; stop talking about the F-layer and how to calculate a dipole length. Focus on a simpler and clearer message about what we do, that is interesting and relevant to a wider audience. Educate instead of focusing on showing off your knowledge and jargon.

## **A (surprisingly good) Tiny Tabletop HF Antenna**

by Sam Duwe, WN5C

I recently built a tabletop QRP HF antenna for 17 and 20 meters, in the spirit of the Elecraft AX-1, so I could operate at lunchtime on the campus where I teach. My wants were something small, that would fit in my work bag, that didn’t require a tuner, and could work on a couple of different bands. But on a lark I decided to attempt a POTA activation at Lake Thunderbird State Park (K-2792) pairing this antenna with my Penntek TR-35 QRP CW transceiver. I figured I’d maybe get one or two QSOs and then switch to a long wire in a tree. But what happened amazed me.

I talked to seemingly everyone. Beginning at 9:00 AM September 26th I worked both 17 and 20 meters for an hour and a half and made 37 contacts from across the country. I even had a Swiss guy call me back on 17 but he faded before we could finish. This antenna, at least as a CW POTA activator, works. Granted conditions were very good, but I’ve replicated this multiple times in the past few weeks, just recently at a picnic





table in the parking lot of the Route 66 Museum (K-8644) in Clinton, OK (there is quite a thrill in urban activations).

It has also reasonably low profile and very quick to setup and take down. It is also quite a conversation piece when I set it up at school. I elevated the counterpoise by attaching it to a nearby oak and an interested undergrad sheepishly asked if I was listening to the tree.

The build is pretty simple. Physically the antenna consists of a small painters pole from Walmart and an old tabletop camera tripod. I found a nut that fit the screw portion of the tripod and hot glued it into the orange connecting section of the pole. That way the tripod can then be screwed onto the pole. The RF parts of the antenna consist of a 38" telescoping whip that I scavenged from the rabbit ears antenna that came with my RTL-SDR. It connects using the original connector which was hot-glued into a hole I drilled into the top of the painters pole. I found similar small 3 or 4-foot whips from AliExpress for cheap and these would probably work fine.

I then soldered a long length of speaker wire that was wound into two coils: the top for 17 meters (24 turns) and the bottom for 20 meters (25 turns plus the former 24-turn coil). The speaker wire was soldered to the center of a BNC connector which I hot glued and taped to the pole. I soldered a short piece of wire from the shield of the BNC for the counterpoise and added an automotive spade connector to attach to a 17-foot length of wire. I also included a switch between the coils and the BNC connector to select either just the top coil (17 meters) or both coils (20 meters) using solder, hot glue, and tape. I then covered my shame in silicone tape.

The most time-consuming aspect of the project was tuning the antenna. It required trial and error to first tune the number of turns on the 17-meter coil and then the 20-meters coil. I extended the counterpoise (for me it's best when slightly elevated) and the telescoping whip. I performed the tuning with the whip not fully extended to give room to tune in the field. Using a nanoVNA was useful here, as was soldering a pin to the wire to poke through the wire at various parts of the coil to find the best SWR.

In use, the antenna can be affected by both body capacitance and how the counterpoise is situated, so I found that an in-line SWR meter was helpful in making sure all was well. Once set up it is easy to fine tune by just adjusting the whip length. 1.5:1 SWR is about how well I can tune on average. Obviously if you have a tuner you would just have to get it close.

There are a million variations on a small base-loaded vertical antenna, and you can definitely improve upon this design. And, besides the super well-built and elegant AX-1, QRP Guys sells an interesting looking kit, and there are some good 3D printed designs I might want to try out. But regardless how you go about it, it might be worth giving a tiny antenna a shot.



## GEARS CENTURY MEMBERS

Michael Ellithorp    Kent Hastings  
Bennett Laskey    Jim Van Sickle  
Stephen McDermott

*We thank these members for their extra support.*

### GEARS Officers:

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Your dues and contributions support our local repeaters, ARES, and outreach events to keep amateur radio alive in our area. GEARs also makes donations to support other local repeaters and clubs.

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